

## CLAIMS

We claim:

1. A method of topically treating a dermatological disorder comprising topically applying a therapeutically effective amount of a cosmetic or dermatological composition to an affected area of the skin, wherein the composition comprises at least one compound selected from a polyhydroxy-alldonic acid, a polyhydroxy-alldonic lactone, a polyhydroxy-allduronic acid, a polyhydroxy-allduronic lactone, a polyhydroxy-alldaric acid, polyhydroxy-alldaric lactone, and an organic acid lactone having two or more hydroxyl or ketohydroxyl groups; and the dermatological disorder is one associated with reactive or dilated blood vessels.
2. The method of claim 1, wherein the composition further comprises a topical agent.
3. The method of claim 1, wherein the dermatological disorder is selected from the group consisting of acrocyanosis, erythema, erythrocyanosis, erythromelalgia, familial hemorrhage, perniosis (chilblains), spider naevi, telangiectasia, and vascular reactions.
4. The method of claim 1, wherein the dermatological disorder is selected from dermatitis, dermatosis, dermatographism, eczema, histamine reaction, lupus erythematosus, mycosis fungoides, parapsoriasis, rhinophyma, rosacea, T-cell disorders, psoriasis, lichen sclerosis.
5. The method of claim 1, wherein the dermatological disorder is selected from the group consisting of actinic cheilitis, actinic prurigo, drug eruptions, erythema migrans, photoallergy, photoreaction, photosensitivity,
6. The method of claim 1, wherein the dermatological disorder is selected from the group consisting of acanthosis nigricans, inflammatory papular and pustular lesions, dyshidrosis, lichen planus, neurodermatitis, neuropeptide and neurovascular reactions, pityriasis rosea, pityriasis rubra pilaris, polymorphic light eruption, and urticaria.
7. The method of claim 1, wherein the at least one compound is selected from the group consisting of glyceric acid, erythronic acid, threonic acid, ribonic acid, arabinoic acid, xylonic acid, lyxonic acid, allonic acid, and altronic acid.
8. The method of claim 1, wherein the at least one compound is selected from the group consisting of gluconic acid, mannoic acid, gulonic acid, idonic acid, galactonic acid, talonic acid, glucoheptonic acid, galactoheptonic acid, and mannoheptonic acid.

9. The method of claim 1, the at least one compound is selected from the group consisting of erythronolactone, threonolactone, ribonolactone, arabinolactone, xylonolactone, lyxonolactone, allonolactone, altronolactone, and gluconolactone.

10. The method of claim 1, wherein the at least one compound is selected from the group consisting of mannolactone, gulonolactone idonolactone, galactonolactone, talonolactone, glucoheptonolactone, galactoheptonolactone, and mannoheptonolactone.

11. The method of claim 1, wherein the at least one compound is selected from the group consisting of glyceruronic acid, erythruronic acid, threuronic acid, riburonic acid, arabinuronic acid, xyluronic acid, lyxuronic acid, alluronic acid, and altruronic acid.

12. The method of claim 1, wherein the at least one compound is selected from the group consisting of glucuronic acid, mannuroic acid, guluronic acid, iduronic acid, galacturonic acid, taluronic acid, glucohepturonic acid, galactohepturonic acid, and mannohepturonic acid.

13. The method of claim 1, wherein the at least one compound is selected from the group consisting of erythruronolactone, riburonolactone, arabinuronolactone, xyluronolactone, glucuronolactone, and mannuronolactone.

14. The method of claim 1, wherein the at least one compound is selected from the group consisting of guluronolactone, iduronolactone, galacturonolactone, glucohepturonolactone, galactohepturonolactone, and mannohepturonolactone.

15. The method of claim 1, wherein the at least one compound is selected from the group consisting of glyceraric acid, erythraric acid, threaric acid, ribaric acid, arabinaric acid, xylaric acid, lyxaric acid, allaric acid, and altraric acid.

16. The method of claim 1, wherein the at least one compound glucaric acid (saccharic acid), mannaric acid, gularic acid, idaric acid, galactaric acid (mucic acid), talaric acid, glucoheptaric acid, galactoheptaric acid, and mannoheptaric acid.

17. The method of claim 1, wherein the at least one compound is selected from glucaric diamide, diethyl glucarate, disodium glucate, diammonium glucate, glucaric monoamide, glucaric monoethyl ester, sodium glucate, and ammonium glucate.

18. The method of claim 1, wherein the at least one compound is selected from galactaric diamide, diethyl galactate, disodium galactate, galactaric monoamide, galactaric monoethyl ester, sodium galactate, and ammonium galactate.

19. The method of claim 1, wherein the at least one compound is selected from ribarolactone, arabinarolactone, xylarolactone, glucarolactone (saccharolactone), mannarolactone, gularolactone, idarolactone, galactarolactone, glucoheptarolactone, galactoheptarolactone, mannoheptarolactone.

5 20. The method of claim 1, wherein the at least one compound is selected from the group consisting of aleuritic acid, glucosaminic acid, galactosaminic acid, mannosaminic acid, hexulosonic acid, 2-keto-gulonic acid, mevalonic acid, pantoic acid, and piscidic acid.

21. The method of claim 1, wherein the at least one compound is selected from the group consisting of aleuritic lactone, glucosaminolactone, galactosaminolactone, mannosaminolactone,  
10 hexulosonolactone, 2-keto-gulonolactone, mevalonolactone, pantolactone, and piscidolactone.

22. The method of claim 2, wherein the agent is selected from the group consisting of an agent that improves or eradicates age spots, keratoses and wrinkles; a local analgesic, a local  
anesthetic; an antiacne agent; an antibacterial agent; an antiyeast agent; and antifungal agents; and  
antiviral agent; an antidandruff agents; an antidermatitis agent; an antihistamine; an antipruritic  
15 agent; and an antiemetic.

23. The method of claim 2, wherein the agent is selected from the group consisting of an  
antimotionsickness agent; an antiinflammatory agent; an antihyperkeratotic agent; an antiperspirant;  
an antipsoriatic agent; an antiseborrheic agent; a conditioner, an antiaging agent, an antiwrinkle  
agent; a sunblock agent; a sunscreen agent; a skin lightening agent; and a depigmenting agent.

20 24. The method of claim 2, wherein the agent is selected from the group consisting of a  
vitamin; a corticosteroid; a tanning agent; a humectant; a hormone; a retinoid; a gum disease or oral  
care agent; a topical cardiovascular agent; a corn, callus and wart removing agent; and a dipilating  
agent.

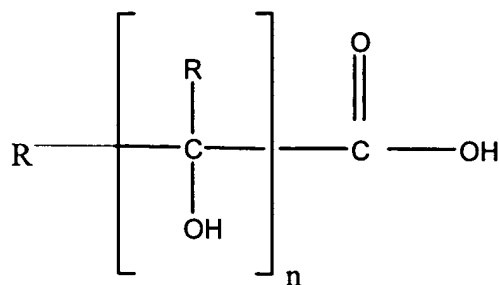
25 25. The method of claim 2, wherein the agent is selected from the group consisting of  
aclovate, acyclovir, acetylsalicylic acid, adapalene, albuterol, aluminum acetate, aluminum chloride,  
aluminum hydroxide, aluminum chlorohydroxide, amantadine, aminacrine, aminobenzoic acid  
(PABA), aminocaproic acid, aminosalicylic acid, amitriptyline, anthralin, ascorbic acid, ascorbyl  
palmitate, atropine, azelaic acid, bacitracin, bemegride, beclomethasone dipropionate,  
benzophenone, benzoyl peroxide, betamethasone dipropionate, betamethasone valerate, and  
30 brompheniramine.

26. The method of claim 2, wherein the agent is selected from the group consisting of bupivacaine, butoconazole, calcipotriene, camphor, capsaicin, carbamide peroxide, chitosan, chlorhexidine, chloroxylenol, chlorpheniramine, ciclopirox, clemastine, clindamycin, clioquinol, clobetasol propionate, clotrimazole, coal tar, cromolyn, crotamiton, cycloserine, 5 dehydroepiandrosterone, desoximetasone, dexamethasone, diphenhydramine, doxypin, doxylamine, dyclonine, econazole, erythromycin, estradiol, ethinyl estradiol, fluocinonide, fluocinolone acetonide, 5-fluorouracil, griseofulvin, guaifenesin, haloprogin, hexylresorcinol, homosalate, hydrocortisone, hydrocortisone 21-acetate, hydrocortisone 17-valerate, hydrocortisone 17-butyrate, hydrogen peroxide, hydroquinone, hydroquinone monoether, hydroxyzine, ibuprofen, ichthammol, 10 imiquimod, indomethacin, ketoconazole, ketoprofen, kojic acid, lidocaine, meclizine, meclocycline, menthol, mepivacaine, methyl nicotinate, methyl salicylate, metronidazole, miconazole, minocycline, minoxidil, monobenzone, mupirocin, naftifine, naproxen, neomycin, nystatin, octyl methoxycinnamate, octyl salicylate, oxybenzone, oxiconazole, oxymetazoline, padimate O, permethrin, pheniramine, phenol, phenylephrine, phenylpropanolamine, piperonyl butoxide, 15 podophyllin, podofilox, povidone iodine, pramoxine, prilocaine, procaine, promethazine propionate, propranolol, pseudoephedrine, pyrethrin, pyrilamine, resorcinol, retinal, 13-cis retinoic acid, retinoic acid, retinol, retinyl acetate, retinyl palmitate, salicylamide, salicylic acid, selenium sulfide, shale tar, sulconazole, sulfur, sulfadiazine, tazarotene, terbinafine, terconazole, tetracaine, tetracycline, tetrahydrozoline, thymol, tioconazole, tolnaftate, triamcinolone diacetate, triamcinolone acetonide, 20 triamcinolone hexacetonide, triclosan, triprolidine, undecylenic acid, urea, vitamin E acetate, wood tar, and zinc pyrithione.

27. The method of claim 2, wherein the agent is selected from the group consisting of a hydroxyacid, a ketoacid, hydroxymonocarboxylic acid, hydroxydicarboxylic acid, 2-hydroxycarboxylic acid, 2-ketocarboxylic acid, a phenyl alpha acyloxyalkanoic acid and derivatives 25 thereof, diphenyl alpha acetoxyacetic acid, phenyl alpha acetoxyacetic acid, phenyl alpha methyl alpha acetoxyacetic acid, phenyl alpha acetoxypropanoic acid, 2-phenyl beta acetoxypropanoic acid, an N-acetyl aldosterone, an N-acetylamine acid, N-acetyl-cysteine, N-acetyl-proline, N-acetyl-glutamine, and N-acetyl-glucosamine.

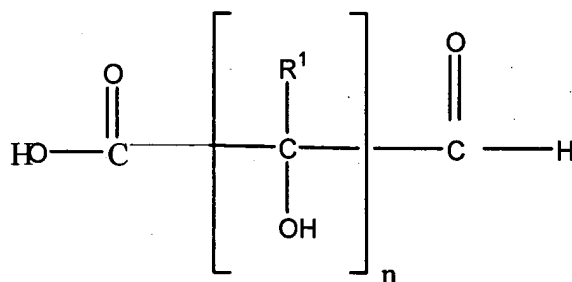
28. A method of topically treating a dermatological disorder comprising topically 30 applying a therapeutically effective amount of a cosmetic or dermatological composition to an affected area of the skin, wherein the composition comprises at least one compound selected from:

a compound represented by formula (I):



wherein n is an integer of 2 to 30; R is independently one of a hydrogen atom, a halogen atom, an alkoxy group, an alkyl group, an aralkyl group, and an aryl group;

a compound represented by formula (II):

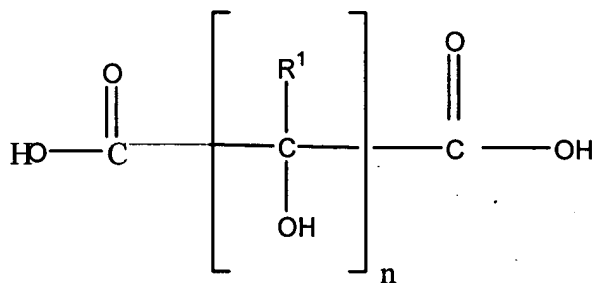


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II

wherein n is an integer of 2 to 30 and R<sup>1</sup> is independently one of a hydrogen atom, a halogen atom, an alkyl group, an alkoxyl group, and an aryl group;

a compound represented by formula (III):



III

10 wherein n is an integer of 2 to 30 and R<sup>1</sup> is independently one of a hydrogen atom, a halogen atom, an alkyl group, an alkoxyl group, and an aryl group; and

a lactone derived from an organic lactone having two or more hydroxyl or ketohydroxyl groups;

and the dermatological disorder is one associated with reactive or dilated blood vessels.

15 29. The method of claim 1, wherein polyhydroxy-aldonic acid is selected from the group consisting of ribonic acid, gluconic acid, galactonic acid and glucoheptonic acid.

30. The method of claim 1, wherein polyhydroxy-aldonic lactone is selected from the group consisting of ribonolactone, gluconolactone, galactonolactone, gulonolactone and glucoheptonolactone.

5 31. The method of claim 1, wherein polyhydroxy-alduronic acid is selected from the group consisting of glucuronic acid, galacturonic acid and iduronic acid.

32. The method of claim 1, wherein polyhydroxy-alduronic lactone is selected from the group consisting of glucuronolactone, galacturonolactone and iduronolactone.

33. The method of claim 1, wherein polyhydroxy-aldaric acid is selected from the group consisting of glucaric acid, galactaric acid and glucoheptaric acid.

10 34. The method of claim 1, wherein polyhydroxy-aldaric lactone is selected from the group consisting of glucarolactone, galactarolactone and glucoheptarolactone.